Education Reform and Development, 2025, Volume 7, Issue 6
https://ojs.bbwpublisher.com/index.php/ERD
Online ISSN: 2652-5372
Print ISSN: 2652-5364

Research on the Current Situation of Myopia Detection and New Prevention Strategies for Secondary Vocational School Students Based on the "Student-oriented" Concept

Yuxi Chen, Yahuan He

Shihezi Health School, Shihezi 832000, Xinjiang, China

Abstract: In today's society, the myopia problem among teenagers has become a high-profile public health issue. The secondary vocational school student group, due to their unique learning and living patterns, faces significant challenges to their eyesight. This research focuses on secondary vocational school students, adheres deeply to the advanced "student-oriented" concept, comprehensively and deeply explores the actual situation of myopia detection among them, meticulously analyzes various existing problems, and proposes highly targeted and effective new prevention strategies considering the personalized characteristics of secondary vocational school students. The core goal is to effectively improve the eye health level of secondary vocational school students, and thus lay a solid foundation for the comprehensive health management work in secondary vocational schools, providing strong theoretical guidance and practical support.

Keywords: Student-oriented; Secondary vocational school students; Myopia detection; Prevention strategies

Online publication: July 7, 2025

1. Introduction

With the rapid development of the times, electronic products have become popular at an unprecedented speed and deeply integrated into people's daily lives. At the same time, the academic pressure faced by secondary vocational school students is constantly increasing. Under the combined influence of these complex factors, the myopia problem among teenagers is becoming more and more serious. As a special part of the teenage group, secondary vocational school students' learning scenarios cover various professional training fields, and their living environments also have their own characteristics, making the myopia problem more prominent [1]. This article will conduct in-depth research on myopia detection and prevention strategies for secondary vocational school students, which is of great significance for effectively ensuring students' healthy growth and steadily improving the overall quality of vocational education [2].

2. Current situation of myopia detection among secondary vocational school students

2.1. Detection frequency

At present, most secondary vocational schools have realized the importance of eyesight detection and can carry out eyesight detection work regularly. Generally, 1–2 detections are organized per semester. However, it cannot be ignored that some schools, restricted by many practical conditions such as manpower shortage and lack of material resources, have extended the detection interval [3]. Especially some secondary vocational schools in remote areas, restricted by local economic development levels and uneven distribution of medical resources, only conduct eye detection once a year. Such a low-frequency detection model is far from meeting the urgent need for real-time and accurate monitoring of students' eyesight changes, allowing students' eyesight problems to occur unnoticed [4].

2.2. Detection methods

For a long time, the traditional visual acuity chart detection method has dominated the eyesight detection work in secondary vocational schools. This method is widely used because of its simple operation and easy implementation. However, it must be admitted that it has inherent shortcomings in assessing the potential risks of early myopia and has poor accuracy [5].

2.3. Detection data management

At present, there are many problems in the management of eye detection data in secondary vocational schools. Most of the detection data is recorded in paper files. This traditional recording method has obvious disadvantages. On the one hand, paper files are easily lost during daily browsing and storage, resulting in the loss of valuable data. On the other hand, it is extremely difficult to share the information in paper files, and it is difficult to achieve efficient data exchange among different departments and personnel. This makes the subsequent statistical analysis work difficult. After the school infirmary records the detection data, due to the lack of an effective linkage mechanism, it rarely builds a close information bridge with class teachers and parents. As a result, these data, which should contain great value, are left unused and cannot fully play their key guiding role in subsequent prevention and intervention [6].

3. Analysis of existing problems based on the "student-oriented" concept

3.1. Low student participation

In the entire myopia detection process, secondary vocational school students are often in a passive state, lacking a comprehensive and in-depth understanding of their own eyesight. They simply cooperate with the inspection steps as required by the school, and they have no idea about why the detection is carried out, what the detection results mean, and how to prevent and control myopia subsequently [7]. Most students forget about it after the detection and ignore the results. They do not have a strong awareness of taking the initiative to protect their eyes, let alone consciously practicing eye-care behaviors in daily study and life [8].

3.2. Lack of personalized care

Secondary vocational schools have a wide variety of majors. The eye-using intensity and eye-using environment of students in different majors vary greatly. However, the current myopia detection and prevention plans for secondary vocational school students do not fully consider this key factor and lack

refined designs that suit the characteristics of different majors [9]. In the current digital development reform, students stare at electronic screens for long periods every day, with their eyes under a high-intensity visual load. Unfortunately, students often receive one-size-fits-all myopia prevention and control guidance without considering the particularity of majors and student groups. Such a "one size fits all" approach naturally leads to a reduction in prevention and control effects.

3.3. Poor home-school cooperation

Schools and parents should be the main forces in protecting students' growth. However, in the crucial battle of myopia prevention and control, the communication channels between them are extremely narrow. Parents usually only learn about their children's eye results through a physical examination report. They know very little about their children's eye-using situations in daily campus study and life, and cannot cooperate with schools to effectively supervise and guide their children to develop good eye-care habits in daily life [10]. Some parents are too busy with work to pay attention to their children's eye problems. Even if they occasionally learn that their children are myopic, they are at a loss about how to take effective intervention measures due to their lack of professional eye-care knowledge [11].

4. Discussion on new prevention strategies

4.1. Improving detection accuracy and frequency

To more accurately grasp the eyesight dynamics of secondary vocational school students, schools should introduce advanced eye biological parameter measurement equipment, such as axial length measuring instruments. These high-tech devices can deeply analyze the subtle changes of students' eyes from multiple dimensions and provide a more reliable basis for myopia risk assessment. In terms of detection frequency, a flexible strategy of regular spot checks can be adopted. Conduct a comprehensive "eye physical examination" on some students every month or every quarter, and organically combine this with the traditional visual acuity chart detection to build a comprehensive and multi-dimensional eyesight monitoring system to accurately capture the development trend of myopia [12]. Especially for students in majors with high eye-using intensity, such as computer majors and numerical control processing majors mentioned above, increase the intensity of spot checks to ensure that no potential eyesight problems are overlooked.

4.2. Strengthening student health education

Carry out unique eye-care knowledge mini-classes based on professional classes, abandoning the previous general and broad education model. Closely combine the distinct characteristics of different majors, skillfully incorporate vivid examples, and explain eye-care precautions in an easy-to-understand way. For example, teachers can use after-school time to carry out a second classroom, emphasizing how students can skillfully use auxiliary lighting tools and adjust their eye-using angles to protect their eyes from damage when studying or living in a dimly lit environment [13]. In daily life, students can also be reminded to be vigilant against the accidental splashing of chemical substances such as hair dyes and perm agents into their eyes, which can cause irreversible damage to eyesight. To fully stimulate students' enthusiasm for actively learning eye-care knowledge, schools can also carefully set up an eye-care knowledge assessment link and incorporate the assessment results into the students' comprehensive quality evaluation system, so that students truly value the learning and accumulation of eye-care knowledge from the bottom of their hearts [14].

4.3. Building a home-school co-education platform

Fully utilize the powerful force of modern information technology to build a convenient and efficient home-school interaction APP. Through this platform, schools can push rich information in real-time, such as students' eyesight detection reports, daily eye-care tips, and detailed eye-using situations at school. This allows parents to have a clear understanding of their children's eyesight dynamics even if they are far away. Parents can use this platform to promptly feedback their children's eye-using habits at home, such as long-time TV watching, mobile phone playing, or incorrect reading and writing postures. School teachers can adjust the in-school eye-care measures promptly based on the feedback from parents, and the two sides can work together to customize a personalized eye-care plan for each student. For example, for students with a rapid increase in myopia, the school and family can jointly discuss and develop an exclusive outdoor activity schedule, clearly stipulating the daily outdoor exercise time, and supervise each other's implementation through the platform to ensure that the eye-care plan is effectively implemented.

5. Conclusion

In general, under the guidance of the "student-oriented" concept, the myopia detection and prevention work for secondary vocational school students has reached a crucial stage where comprehensive and in-depth innovation is necessary. Only by continuously optimizing the detection process, effectively enhancing students' subjective awareness so that students truly become the masters of eye-care actions, paying close attention to individual differences among students and tailoring precise prevention and control plans, and further strengthening the connection between home and school to gather the powerful force of home-school co-education, can an effective myopia prevention and control system be established to truly protect the eyesight health of secondary vocational school students. This not only lights the way for the future career development of secondary vocational school students but also lays a healthy foundation for them to open the door to a better life. It is also an inevitable choice for vocational education to move forward towards the grand goal of high-quality development. In subsequent research, the implementation effect of new strategies can be further tracked, continuously improved, and optimized to adapt to the changing vocational education environment and students' needs.

Funding

Research on the Current Situation of Myopia Detection and New Prevention Strategies of Secondary Vocational Students Based on the Concept of "Student-oriented" (Project No.: 2023 No. 8)

Disclosure statement

The authors declare no conflict of interest.

References

[1] Zheng W, 2021, Investigation on Strategies for Preventing Myopia in Junior High School Students in Physical Education Teaching. Contemporary Sports, 2021(6): 154.

[2] Liu H, 2020, Research on the Implementation Strategies of Secondary Vocational Class Teachers' Work Based on the Student-Oriented Concept. Invention and Innovation Education Informatization, 2020(issue number): 48–49.

[3] Li J, 2019, The Role and Measures of the People-Oriented Concept in the Management of Secondary Vocational School Students. The Guide of Science & Education (Electronic Edition), 2019(14): 50–52.

[4] Zhao H, 2020, Interpretation of the Teacher-Student Relationship in Secondary Vocational Schools Based on the Student-Oriented Concept. Intelligence, 2020(16): 54.

[5] Fang R, 2020, Research on the Current Situation and Training Strategies of the Professional Qualities of Secondary Vocational Nursing Students: Taking Huizhou Health Vocational and Technical College in Guangdong Province as an Example, thesis, Guangdong Polytechnic Normal University.

[6] Wei C, 2023, Research on the Physical Health Status and Influencing Factors of Secondary Vocational School Students: Taking Baiyun District Vocational and Technical School in Guiyang City as an Example, thesis, Guizhou Normal University.

[7] Yang Q, Liu Y, 2021, Analysis of the Effects of School Doctors' Nursing Intervention in Controlling and Preventing Myopia and Trachoma among Secondary Vocational School Students. The World of Health Preservation, 2021(004): 228.

[8] Zhang W, Liu H, 2021, Investigation and Research on the Physical Exercise and Myopia of Secondary Vocational School Students: Taking Gansu Polytechnic Secondary Professional School as an Example. Sports Vision, 2021(22): 102–105.

[9] Gan Q, Zhang Q, 1999, Investigation on Myopia and Eye-Using Hygiene Habits of Students in a Secondary Specialized School. Hubei Journal of Preventive Medicine, 1999: 112–114.

[10] Wang Q, Liu Z, Yang Y, et al., 2024, Investigation on the Mental Health Status of Myopic Medical Students in the "Three-Two Continued Education" Program. Acta Academiae Medicinae Qingdao Universitatis, 60(3): 445–450.

[11] Wei Y, 2021, The Influence of Exercise Volume on the Health of Secondary Vocational School Students from the Perspective of "Healthy China". Technology Wind, 2021(29): 108–110.

[12] Fu Y, 2023, A Brief Analysis of the Causes and Prevention Strategies of Myopia in Primary School Students. Computer Campus, 2023(6): 288–290.

[13] Pan L, 2019, Investigation and Analysis of the Myopia Situation of Secondary Vocational School Students. New Education Era Electronic Journal (Teacher Edition), 2019: 114–116.

[14] Wang Y, 2022, Research on the Network Bullying of Secondary Vocational School Students from the Perspective of the Care Education Theory, thesis, Ludong University.